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Appl. No. 10/710,935
Reply to Office action of August 31, 2007

Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

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Claim 1 (currently amended) A non-volatile memory cell, comprising:

a substrate, the substrate comprising a first region and a second region;

a plurality of isolation structures positioned on the substrate, the isolation structures comprising a first isolation structure positioned in the first region and a

10 second isolation structure surrounding the second region, the first isolation structure being a field oxide layer;

a control gate positioned on the first isolation structure in the first region;

a first insulating layer positioned on the control gate;

15 a second insulating layer positioned on the portion of the substrate in the second region; and

a floating gate positioned on the first insulating layer and the second insulating layer, wherein the control gate is surrounded by the floating gate, the floating gate comprises an opening positioned above the first insulating layer, the opening is closed, and the opening is used to form a wire therein to connect to the control gate.

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Claim 2 (original) The non-volatile memory cell of claim 1, wherein the portion of the floating gate positioned in the first region is stacked above the control gate.

Claim 3 (cancelled)

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Claim 4 (original) The non-volatile memory cell of claim 1, wherein the substrate comprises a well of a first conductivity type positioned in the first region and the second region.

30 Claim 5 (original) The non-volatile memory cell of claim 1, wherein the substrate

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comprises at least a doping region of a second conductivity type positioned beneath the second insulating layer.

Claim 6 (currently amended) The non-volatile memory cell of claim 1, wherein the
5 ~~isolation structures comprise~~ second isolation structure comprises a field oxide layer
~~layers or a shallow trench isolation structure structures.~~

Claim 7 (original) The non-volatile memory cell of claim 1, wherein the first
10 insulating layer comprises a composite layer composed of an oxide layer, a silicon
nitride layer, and a silicon oxide layer.

Claim 8 (original) The non-volatile memory cell of claim 1, wherein the second
insulating layer comprises a tunneling oxide layer.

15 Claims 9-20 (cancelled)